Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended): Edible plant material comprising transgenic plant cells transformed with a resveratrol synthase transgene under the control of a constitutive promoter whereby said transgenic plant cells accumulate resveratrol glucoside upon expression of said resveratrol synthase transgene, wherein said edible plant material exhibits an increased concentration of resveratrol glucoside [at the time of consumption] as compared to edible plant material consisting of non-transgenic plant cells of the same cell type grown under the same conditions.

Claim 2 (previously presented): The edible plant material of Claim 1, wherein said edible plant material is suitable for consumption as a food stuff, a nutritional supplement, an animal feed supplement, or a nutraceutical in the form of a live or harvested whole plant or plant part.

Claim 3 (currently amended): The edible plant material of Claim 1, wherein said resveratrol synthase transgene [is] encodes the amino acid sequence of SEQ ID NO:2.

Claim 4 (currently amended): The edible plant material of Claim 2, wherein said resveratrol synthase transgene [is] encodes the amino acid sequence of SEQ ID NO:2.

Claim 5 (previously presented): The edible plant material of Claim 1, 2, 3 or 4, wherein said plant is a legume.

Claim 6 (previously presented): The edible plant material of Claim 5, wherein said plant is alfalfa.

Claim 7 (previously presented): The edible plant material of Claim 5, wherein said plant is soybean.

Claim 8 (previously presented): A composition comprising edible plant material, said edible plant material comprising transgenic plant cells transformed with a resveratrol synthase transgene under the control of a constitutive promoter whereby said transgenic plant cells accumulate resveratrol glucoside upon expression of said resveratrol synthase transgene, wherein

the percentage of resveratrol glucoside in said composition obtained by adding a given weight of said edible plant material comprising said transgenic plant cells to said composition is higher than the percentage of resveratrol glucoside obtainable by adding instead the same weight of edible plant material consisting of non-transgenic plant cells of the same cell type grown under the same conditions to said composition.

Claim 9 (previously presented): The composition of Claim 8, wherein said composition is suitable for consumption as a food stuff, a nutritional supplement, an animal feed supplement, or a nutraceutical.

Claim 10 (currently amended): The composition of Claim 8, wherein said resveratrol synthase transgene [is] <u>encodes the amino acid sequence of</u> SEQ ID NO:2.

Claim 11 (currently amended): The composition of Claim 9, wherein said resveratrol synthase transgene [is] <u>encodes the amino acid sequence of</u> SEQ ID NO:2.

Claim 12 (previously presented): The composition of Claim 8, 9, 10 or 11, wherein said plant is a legume.

Claim 13 (previously presented): The composition of Claim 12, wherein said plant is alfalfa.

Claim14 (previously presented): The composition of Claim 12, wherein said plant is soybean.

Claim 15 (currently amended): An edible plant comprising transgenic plant cells transformed with a resveratrol synthase transgene under the control of a constitutive promoter whereby said transgenic plant cells accumulate resveratrol glucoside upon expression of said resveratrol synthase transgene, wherein said edible plant exhibits an increased concentration of resveratrol glucoside [at the time of consumption] as compared to an edible plant comprising non-transgenic plant cells of the same cell type grown under the same conditions.

Claim 16 (previously presented): The edible plant of Claim 15, wherein said edible plant is suitable for consumption as a food stuff, a nutritional supplement, an animal feed supplement, or a nutraceutical in the form of a live or harvested whole plant or a plant part.

Claim 17 (currently amended): The edible plant of Claim 15, wherein said resveratrol synthase transgene [is] <u>encodes the amino acid sequence of</u> SEQ ID NO:2.

Claim 18 (currently amended): The edible plant of Claim 16, wherein said resveratrol synthase transgene [is] <u>encodes the amino acid sequence of</u> SEQ ID NO:2.

Claim 19 (canceled)

Claim 20 (canceled).

Claim 21 (currently amended): The edible plant of Claim 15, 16, 17, <u>or</u> 18[, 19 or 20], wherein said plant is a legume.

Claim 22 (previously presented): The edible plant of Claim 21, wherein said plant is alfalfa.

Claim 23 (previously presented): The edible plant of Claim 21, wherein said plant is soybean.

Claim 24 (currently amended): Seed from the edible plant of Claim 15, 16, 17, <u>or</u> 18[, 19, 20, 21, 22 or 23].

Claim 25 (currently amended): Progeny from the edible plant of Claim 15, 16, 17, <u>or</u> 18[, 19, 20, 21, 22 or 23].

Claim 26 (previously presented): Progeny from the seed of Claim 24.

Claim 27 (currently amended): A method of improving the nutritional value of an edible plant comprising:

transforming cells from said plant with a DNA construct comprising at least one open reading frame encoding for resveratrol synthase under expression control of a constitutive promoter to form transgenic plant cells; and

cultivating said transgenic plant cell under conditions conducive to regeneration and plant growth and under conditions conducive to the accumulation of p-coumaryl CoA and malonyl CoA precursors and [the suppression] <u>to minimizing the concentration</u> of β-glucosidases<u> active on resveratrol glucoside,</u>

wherein said edible plant exhibits an increased concentration of resveratrol glucoside [at the time of consumption] as compared to an edible plant comprising non-transgenic plant cells of the same cell type grown under the same conditions.

Claim 28 (currently amended): The method of Claim 27, wherein said open reading frame [is] <u>encodes the amino acid sequence of</u> SEQ ID NO:2.

Claim 29 (currently amended): A method of using an edible plant comprising

transforming [transgenic] plant cells of said edible plant [transformed] with a resveratrol

synthase transgene under the control of a constitutive promoter to form transgenic plant cells

whereby said transgenic plant cells accumulate resveratrol glucoside upon expression of said

resveratrol synthase transgene, wherein said edible plant exhibits an increased concentration of

resveratrol glucoside [at the time of consumption] as compared to an edible plant comprising

non-transgenic plant cells of the same cell type grown under the same conditions and

consuming said edible plant to provide a nutraceutical benefit to a human or animal.

Claim 30 (currently amended): The method of Claim 29, wherein said open reading

frame [is] encodes the amino acid sequence of SEQ ID NO:2.

Claim 31 (withdrawn). A method for producing isolated resveratrol glucoside

comprising

transforming a non-transgenic plant cell with a DNA construct comprising at least one

open reading frame encoding for resveratrol synthase under expression control of a constitutive

promoter to form said transgenic plant cell; and

cultivating said transgenic plant cell under conditions conducive to regeneration and plant

growth and under conditions conducive to the accumulation of p-coumaryl CoA and malonyl

CoA precursors and the suppression of β-glucosidases, wherein said transgenic plant cell

exhibits an increased concentration of resveratrol glucoside as compared to non-transgenic plant

cells of the same cell type grown under the same conditions; and

isolating said resveratrol glucoside from said transgenic plant cell.

Claim 32 (withdrawn). The method of Claim 31, wherein said open reading frame is

SEQ ID NO:2.

Claim 33 (withdrawn): The method of Claim 31 or 32, wherein said isolated resveratrol

glucoside is suitable for consumption as a nutritional supplement, an animal feed supplement, or

a nutraceutical.

Claim 34 (currently amended): A method for producing a transgenic plant cell having

increased resveratrol glucoside concentration comprising

transforming a non-transgenic plant cell with a DNA construct comprising at least one

open reading frame encoding for resveratrol synthase under expression control of a constitutive

promoter to form said transgenic plant cell; and

cultivating said transgenic plant cell under conditions conducive to regeneration and plant growth and under conditions conducive to the accumulation of p-coumaryl CoA and malonyl CoA precursors and [the suppression] to minimizing the concentration of β-glucosidases active on resveratrol glucoside,

wherein said transgenic plant cell exhibits an increased concentration of resveratrol glucoside as compared to non-transgenic plant cells of the same cell type grown under the same conditions.

Claim 35 (currently amended): The method of Claim 34, wherein said open reading frame [is] encodes the amino acid sequence of SEQ ID NO:2.

Claim 36 (previously presented): The method of Claim 34 or 35, wherein said plant is a legume.

Claim 37 (previously presented): The method of Claim 36, wherein said plant is alfalfa.

Claim 38 (previously presented): The method of Claim 36, wherein said plant is soybean.

Claim 39 (currently amended): A method of increasing disease resistance in an edible plant comprising transforming cells of said plant with a resveratrol synthase transgene under the control of a constitutive promoter whereby said transgenic plant cells accumulate resveratrol glucoside upon expression of said resveratrol synthase transgene, wherein said edible plant exhibits an increased concentration of resveratrol glucoside [at the time of consumption] as compared to an edible plant comprising non-transgenic plant cells of the same cell type grown under the same conditions.

Claim 40 (currently amended): The method of Claim 39, wherein said open reading frame [is] encodes the amino acid sequence of SEQ ID NO:2.

Claim 41 (currently amended): A method for decreasing spoilage of an edible plant or plant parts after harvesting comprising

before harvesting, transforming cells from said plant with a DNA construct comprising at least one open reading frame encoding for resveratrol synthase under expression control of a constitutive promoter to form transgenic plant cells; and

cultivating said transgenic plant cell under conditions conducive to regeneration and plant

growth and under conditions conducive to the accumulation of p-coumaryl CoA and malonyl

CoA precursors and [the suppression] to minimizing the concentration of β-glucosidases active

on resveratrol glucoside, wherein resveratrol glucoside accumulates in said transgenic plant cells,

whereupon harvesting, said plant exhibits an increased concentration of resveratrol

glucoside as compared to a plant comprising non-transgenic plant cells of the same cell type

grown under the same conditions.

Claim 42 (currently amended): The method of Claim 41, wherein said open reading

frame [is] encodes the amino acid sequence of SEQ ID NO:2.

Claim 43 (new): Seed from the edible plant of Claim 21.

Claim 44 (new): Seed from the edible plant of Claim 22.

Claim 45 (new): Seed from the edible plant of Claim 23.

Claim 46 (new): Progeny from the edible plant of Claim 21.

Claim 47 (new): Progeny from the edible plant of Claim 22.

Claim 48 (new): Progeny from the edible plant of Claim 23.

Claim 49 (new): Progeny from the seed of Claim 21.

Claim 50 (new): Progeny from the seed of Claim 22.

Claim 51 (new): Progeny from the seed of Claim 23.

Claim 52 (new): The edible plant of Claim 15, wherein said edible plant is useful as a

source for isolated resveratrol glucoside.